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AUTHOR Reasinger, Renne; Brownlow, Sheila
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ABSTRACT

This study examined the relative impact of intrinsic and extrinsic motivation and personality variables on procrastination behavior of college students. A total of 96 undergraduates completed the Procrastination Assessment Scale-Students, the Multidimensional-Multiattributional Causality Scale, the Brief Fear of Negative Evaluation Scale, the Work Preference Inventory, Burns' Perfectionism Scale, and the Locus of Control Scale. Multiple regression analyses of the results found that lack of extrinsic motivation, perfectionism, and an external attributional style all predicted the tendency to procrastinate. On the other hand, low procrastinators were motivated by both external and internal factors more than high procrastinators, while high procrastinators put off tasks due to aversion. Students with low intrinsic motivation made attributions to context and luck, particularly when they succeeded, while students with higher levels of intrinsic motivation made attributions to ability and effort for success, and effort for failure. Lack of extrinsic motivation contributed to procrastination for all students. (Contains 40 references.) (MDM)

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Putting off Until Tomorrow What is Better Done Today:
Academic Procrastination as a Function of Motivation Toward College Work

Renee Reasinger and Sheila Brownlow

Catawba College

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Poster presented at the 42nd annual meeting of the Southeastern Psychological Association, March, 1996, Norfolk, VA. This work is based on the honors thesis of the first author. We are indebted to Kathy Walter for her help with the data set and for comments on the manuscript. Correspondence regarding this paper should be addressed to either author at the Department of Psychology, Catawba College, Salisbury, NC 28144 or to rreasing@catawba.edu or sbrownlo@catawba.edu.

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Abstract

Procrastination research has been based on the assumption that procrastination is a stable personality trait, but has ignored the fact that the origin of procrastination may be a result of lack of motivation toward the task at hand, rather than an enduring personality characteristic. We examined the relative impact of intrinsic and extrinsic motivation and personality variables such as fear of failure, perfectionism, and locus of control on academic procrastination, and also studied attribution patterns of students who procrastinate. Results revealed that lack of extrinsic motivation, coupled with perfectionism and an external attributional style, contributed to procrastination. Low-procrastinating students were more motivated by internal and external forces than were high procrastinators. Moreover, high procrastinators and those low in intrinsic motivation made external attributions (to context and luck) for their successes, but students who were intrinsically motivated took personal responsibility for both their successes and failures. These findings suggest that both salient motivators and stable personality factors contribute to academic procrastination.

Putting off Until Tomorrow What is Better Done Today:
Academic Procrastination as a Function of Motivation Toward College Work

"Don't do today what can be put off until tomorrow" is the way procrastinators deal with all aspects of their lives. Even though procrastination may disrupt daily functioning and cause personal stress, many people still delay the inevitable. Thus, the search for personal and environmental factors contributing to procrastinatory behavior has been the focus of recent research.

Procrastination is purposely delaying the start or completion of a task to the point of experiencing discomfort (Solomon & Rothblum, 1984), and is considered to be chronic or dysfunctional when such behavior disrupts normal everyday functioning. Chronic procrastination overshadows all aspects of life and causes an overwhelming discomfort that impinges on ability to work (McCown & Johnson, 1991). Compared to those who do not procrastinate, procrastinators seek perfection and fear failure (Flett, Blankstein, Hewitt & Koledin, 1992), are more pessimistic (Lay, 1992), and experience higher levels of anxiety, especially when they realize they are procrastinating (McCown & Johnson, 1991).

A number of social behaviors also differentiate procrastinators from non procrastinators. For example, procrastinators prefer to do social rather than cognitive tasks, although when in a group situation procrastinators will choose to perform a cognitive task so that they will not be viewed as dumb by avoiding an aversive task they dislike (Ferrari, 1991b, 1991c). Procrastinators are spontaneous, curious, and adaptive (Ferrari, Parker & Ware, 1992), but also may use foot-dragging as a form of revenge (Ferrari & Emmons, 1994).

The personal and practical problems that result from dysfunctional procrastination are particularly salient in academic settings, as the tendency to put off academic tasks results in problematic levels of anxiety (Rothblum, Solomon, & Murakami, 1986). In

essence, procrastinators have a problem setting goals for themselves, and subsequently perceive that they have less control of time throughout the day (Lay, 1993). These problems manifest themselves in a number of disruptive behaviors, as academic procrastinators study fewer hours than they intend to study for exams (McCown & Johnson, 1991; Lay & Burns, 1991), intend to start later (and actually start later) than they should on class assignments (Lay & Burns, 1991), and delay in returning materials to professors (Ferrari, 1992). Not surprisingly, students who procrastinate tend to be dissatisfied with their courses (McCown & Johnson, 1991), and have lower grade point averages than non-procrastinators (Wesley, 1994).

Procrastinatory behavior may occur for several different reasons. Some procrastinate for the "rush" of trying to accomplish the given assignment (Ferrari, 1992), others may procrastinate because they enjoy doing things impulsively rather than planned (McCown & Johnson, 1991; Ferrari et al., 1992), some do so to avoid the task or situation at hand (Ferrari, 1991a, 1991b, 1992; Lay, Knish, & Zanatta, 1992), and others may procrastinate due to fear of failure (Flett et al., 1992). The latter two reasons - task avoidance and fear of failure - are the primary excuses for procrastination, especially in academics, although of the two, fear of failure is the prominent reason given by procrastinators (Solomon & Rothblum, 1984). Task avoidance is when a person intentionally avoids an aversive task (Ferrari, 1991c,1992; Solomon & Rothblum, 1984), and is particularly likely if the task involves a heavy cognitive demand and is subject to evaluation (Ferrari, 1991c, 1992). Fear of failure, on the other hand, is delaying for fear that performance will be substandard and not reach the expectations set by others (Rothblum, et al., 1986; Solomon & Rothblum, 1984). In academics, particularly, fear of how others will evaluate performance may be overwhelming (Saddler & Sacks, 1993).

Despite the fact that procrastination has negative consequences, and that students are aware of those consequences, procrastination continues. Research has focused on

related and concomitant personality traits of procrastination, but has ignored the fact that the origin of procrastination may not be a function of stable personality traits. Rather, procrastination may be a result of lack of motivation toward the task at hand, instead of an enduring personality characteristic. Therefore, what motivates students to perform and accomplish academic work in the first place is paramount to understanding whether they will procrastinate, why they will do so, and the types of reasons they will use to justify their procrastinatory behavior.

Motivation is the force that drives a person to engage in activities. There are two types of motivation: intrinsic motivation, which refers to the motivation that results from internal drive toward an activity (Amabile & Gitomer, 1984; Lepper & Green, 1973; Lepper, Green, & Nisbett, 1972), and extrinsic motivation, which describes the type of motivation that results as a function of the external contingencies to perform a specific task (Deci, Betley, Kahle, Abrams, & Porac, 1981). Intrinsic motivation may be undermined by conditions in the educational and work environment (Amabile, 1983, 1993, p. 159). Factors such as monetary rewards (Amabile, Hennessey, & Grossman, 1986; Deci, 1971), surveillance (Lepper et al., 1972), evaluation by others (Waschull & Kernis, 1996), deadlines (Amabile, DeJong, & Lepper, 1976), and competition coupled with the expectation of others that you should win (Harackiewicz & Elliot, 1993; Deci, et al., 1981; Reeve & Deci, 1996) may be detrimental to intrinsic motivation by focusing attention on the external reasons for doing something, thereby minimizing the importance of the original drive. Consequently, our own justification for our behavior is determined by the environmental factors present at the time (Bem, 1972). Thus, if external rewards or social influences are present, then the attribution for the behavior will be to extrinsic factors. Because rewards are one of the most salient influences on intrinsic motivation (Amabile, 1983b), motivation toward academic work may be unstable because of the dependence on external rewards for work.

Understanding self-perceived motivation toward an endeavor may be important to understanding the subsequent attributions made in light of recurrent procrastination. Attribution theory focuses on whether explanations for behavior (our own or that of others) are primarily focused on internal factors (i.e., disposition, emotion, intention) or external causes (others' behavior, environment) that are either within or beyond the control of people (Ross & Fletcher, 1985, p. 96). Internal attributions may be made to either ability or effort, the latter of which is perceived as a result of motivation (Ross & Fletcher, 1985, p. 90). However, external attributions, such as luck or situational context, are perceived as a result of the environment. Typically, people attribute their successes to internal disposition, taking responsibility for outcomes, but blame external reasons (such as task difficulty) for their failures. Thus, a self-serving bias is evident in that people continue to view themselves in a positive light regardless of whether the outcome of an event is a success or a failure (Miller & Ross, 1975).

In order to facilitate self-serving attributions and protect self-image, people may construct actual external barriers to success (Berglas & Jones, 1978; Lay et., 1992; Shepperd & Arkin, 1989). This process, called self-handicapping, allows for external attributions for poor performance (Rhodewalt, Morf, Hazlett, & Fairfield, 1991). Thus, self-handicappers tend to create preset barriers and attribute their failure to external (i.e., barriers) forces. Not surprisingly, procrastinators are notorious for self-handicapping, often choosing tasks that will produce the most barriers to success (Ferrari, 1991a, 1991b, 1991; Lay, 1992).

Clearly, procrastinators differ from non-procrastinators on a number of social and personality dimensions, and probably differ in attributional style. Because procrastination may be a function of unstable drives toward engaging in specific tasks, we examined the relative impact of both motivation toward academic work and personality variables on chronic academic procrastination. We hypothesized that

procrastination would be a function of internal motivation because salient intrinsic or extrinsic rewards will determine whether or not procrastinatory behaviors will occur. Another goal of this study was to examine the nature of attributions for procrastination. If academic procrastination is a function of situation-specific motivation toward work, then attributions for procrastination should be external. Procrastinators would most likely attribute both their successes and failures to the context of the situation.

Method

Participants

Participants were 96 undergraduate students (48 men, 48 women; distributed among college class) who volunteered or participated for extra course credit. Participants completed the study either alone or in mixed-sex groups of two-10 people.

Measures

Procrastination. The Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1984) focuses on academics and yields two indices of procrastination. First, the frequency of procrastination and the severity of the consequences of procrastination, and second, the reasons given for procrastination. All questions are measured on 5-point scales. To assess frequency of procrastination, students are given several situations (i.e., writing a term paper, studying for an exam, meeting with professors) and are asked to indicate the degree to which they procrastinate and the degree to which this is a problem. Respondents also express how much they would like to change the specific procrastinatory behavior. To determine the reasons students procrastinate, respondents read a scenario and indicate the degree to which the reasons such as "you waited until a classmate did his or hers, so that he/she could give you some advice" and "you had too many other things to do" reflect why they procrastinate. Thus, the PASS yields a measure of procrastination, an indication of how much desire exists to change the behavior, and a number of reasons for procrastination. These reasons include fear

of failure, task aversion, difficulty making decisions, dependency, lack of assertion, risk taking, and rebellion against control, and are based on combinations of reasons for procrastinating according to Solomon and Rothblum's (1984) factor analysis.

Attributional style. Attributional style was measured through the Multidimensional-Multiattributional Causality Scale (MMCS; Lefcourt, von Baeyer, Ware, & Cox, 1979). The MMCS delineates two types of attributional styles, internal and external, and further distinguishes whether internal attributions are made to ability or effort, and whether external attributions are made to luck or situational context. The MMCS consists of 24 achievement items such as "whenever I receive good grades, it is always because I have studied hard for that course" and "some of my bad grades may have been a function of bad luck, being in the wrong course at the wrong time." These questions are divided equally between success and failure situations, and among these success and failure situations are an equal number of questions that determine attributions to ability, effort, luck, and context. This scale thus produces 15 separate attributional indices, including (1) a total score for overall attributional style; (2) a score for internal and external attributions, collapsed across the four types of attributions and the success and failure dimension; (3) a measure for each type of attribution, collapsing across success and failure; and (4) an attributional index for each type of attribution for both success and failure.

Fear of Negative Evaluation. The Brief Fear of Negative Evaluation Scale (Brief FNE; Leary, 1983) assesses concern and apprehension about negative evaluations received by others. The Brief FNE consists of 12 items derived from the Fear of Negative Evaluation Scale (Watson & Friend, 1969), and includes items such as, "I am frequently afraid of other people noting my shortcomings" and "when I am talking to someone, I worry about what they may be thinking about me." Each item is rated on a 5-point scale, and after appropriate reverse scoring, a total FNE score (out of 60 possible)

is obtained.

Motivation. The Work Preference Inventory (WPI; Amabile, 1990; Amabile, Hill, Hennessey, & Tighe, 1994) was utilized to measure intrinsic and extrinsic motivation toward college work. Two types of motivation are described by the major scales of the WPI: intrinsic and extrinsic motivation. The subscale of intrinsic motivation is task satisfaction, which measures enjoyment experienced during a task. Outward orientation, which assesses how motivating people find competition with others, and compensation, which is the motivation that comes from the possibility of recognition from others for work, are the two subscales of extrinsic motivation. Some items included on the WPI are "I prefer to figure things our for myself," "I am strongly motivated by the grades I can earn," and "I want to find out how good I really am at my work." Items are rated on a 4-point scale, and after appropriate reverse scoring, an average for each scale is obtained.[1] Two participants are missing all WPI scores.

Perfectionism. The Burns' Perfectionism Scale (Burns, 1980) was used to measure perfectionism. Items on the scale include "People will probably think less of me if I make a mistake" and "If I try hard enough, I should be able to excel at anything I attempt." The Burns' Perfectionism scale yields a total score attained by summing all of the responses together, so scores range from -20 to +20.

Locus of Control. The Locus of Control Scale (Rotter, 1971) was used to measure whether the student perceives an internal and controllable, or external and environmental locus of control. The scale consists of yes/no questions that produce two scores: a number of agreements for internal locus and a number of agreements for external locus. Example questions include "when I am right I can convince others" and "it is silly to think that one can really change another person's basic attitudes."

Procedure

After providing consent, participants completed the following scales in this order:

(1) Burn's Perfectionism Scale, (2) Multidimensional-Multiattributional Causality Scale; (3) Locus of Control; (4) Fear of Negative Evaluation; (5) Work Preference Inventory; (6) Procrastination Assessment Scale-Students. The PASS was given last so that the participants were less likely to determine that procrastination was our major focus. At the conclusion of the testing session, participants were informed of the specific intentions of the study, and were provided an opportunity to ask questions.

Results

Relative Influence of Motivation and Personality on Procrastination

In order to examine the impact of motivation and personality on chronic tendency to procrastinate, a series of regressions were computed with various personality and motivation measures as predictors of procrastination. These regressions included only the major scales from those personality inventories that produce general scales as well as subscales (i.e., the internal and external styles from the MMCS, but not those that are specifically based on success or failure situations, and intrinsic and extrinsic motivation on the WPI, but not the subscales).

A forced-entry multiple regression was calculated with major motivation scales (intrinsic and extrinsic), Perfectionism, Fear of Negative Evaluation, Locus of Control (both scales), MMCS (internal and external measures), and participant sex (as a dummy variable) as predictors of scores on the PASS. This equation was significant, $F(10, 83) = 5.55$, $p < .001$, and these variables accounted for 63% of the variance. As can be seen in Table 1, significant predictors of procrastination included an external attributional style ($\beta = .25$), Perfectionism ($\beta = .41$), lack of extrinsic motivation ($\beta = -.37$), and being male ($\beta = -.22$). Given that participant sex contributed to procrastination, parallel regressions were calculated within sex of participant.

The regression analysis including only men was significant, $F(9, 38) = 2.19$, $p < .05$, and the predictor variables accounted for 58% of the variance. However, examination of

the data displayed in Table 1 reveals that the only significant predictor of procrastination was lack of extrinsic motivation (β = -.34). For women only, the regression equation also reached significance, $F(8, 37) = 4.04$, $p < .01$, and the variables accounted for 68% of the variance in the equation. Significant predictors of procrastination included Perfectionism (β = .50), external attributional style (β = .28), and lack of extrinsic motivation (β = -.40).

In sum, all participants procrastinated because of lack of extrinsic motivation, although women's drive toward perfection and external attributional style were also important.[2]

Motivation and Personality Differences According to Procrastination Tendency

In order to directly compare the motivation, attributional style, and self-reported reasons for procrastination of those students who tend to procrastinate often with those students who don't, a median split of the PASS scores was obtained. An unequal number of men and women participants were distributed in the high and low procrastination group, therefore, participant sex was included as a two-level factor in ANOVAs, along with procrastination (high vs. low), and college class. The results of these 2 x 2 x 4 (Procrastination x Sex x Class) ANOVAs with WPI scores, reasons for procrastination (from the PASS), and MMCS measures are located in Tables 2-4. Because of unequal n in cells, the unweighted means solution was used, and to reduce the likelihood of Type I error, we lowered to .025 the acceptable p-level for interactions to be considered significant.

As can be seen in Table 2, high procrastinators were less intrinsically motivated than were low procrastinators, $F(1, 78) = 7.05$, $p < .01$, however, the interaction of sex and procrastination was significant, $F(1, 78) = 5.47$, $p < .025$, and Scheffé tests (alpha = .05) revealed that intrinsic motivation was lower for high-procrastinating men when compared to low-procrastinating men, but that women did not differ in their

motivation levels. The differential intrinsic motivation on the part of procrastinators may have been a function of task satisfaction, as low procrastinators indicated that they found school tasks inherently more satisfying than did high procrastinators, $F(1, 78) = 6.24$, $p < .05$.

Examination of the means displayed in Table 2 further reveals that low procrastinators were more extrinsically motivated than were high procrastinators, $F(1, 78) = 3.84$, $p < .05$. Finally, women were more motivated by potential compensation for their school work than were men, $F(1, 78) = 5.59$, $p < .05$.

As can be seen in Table 3, high procrastinators put off tasks due to task aversion more than low procrastinators, $F(1, 80) = 10.75$, $p < .01$. Also, women more than men reporting procrastinating for reasons including fear of failure, dependency, and difficulty in making decisions, all $Fs(1, 80) \geq 6.37$, $ps < .01$.

In sum, low procrastinators were motivated by both external and internal factors more than were high procrastinators, while high procrastinators put off tasks due to aversion. No differences in reasons for procrastination were seen based on tendency to procrastinate, although women procrastinated for different reasons than men.

Table 4 displays the means from the 2 x 2 x 4 (Procrastination x Sex x Class) ANOVAs for MMCS measures. High procrastinators were more likely to make attributions in general than were low procrastinators, $F(1, 80) = 5.28$, $p < .05$, although these attributional style differences were seen only in the tendency to make external attributions, $F(1, 80) = 10.46$, $p < .01$. Both types of external attributions--to situational context and to luck--were more prevalent among high procrastinators, both $Fs(1, 80) \geq 6.77$, $ps < .01$. However, attributional style differences were apparent only for success situations, both $Fs(1, 80) \geq 6.20$, $ps < .05$, as high and low procrastinators did not differ in their tendencies to make external attributions (to context or luck) for failure.

Results of these analyses also revealed that women more than men provided ability

attributions, particularly when they failed in some situation, both $\underline{F}$s(1, 80) $\geq$ 8.55, $\underline{p}$s < .01. Finally, college class affected attributional style, $\underline{F}$(3, 80) = 2.87, $\underline{p}$ < .05, and Scheffé tests indicated that sophomores (M = 7.38) attributed their failures to context more than both juniors (M = 5.96) and seniors (M = 5.54), $\underline{p}$s < .05.

In sum, high procrastinators gave external attributions (to both context and luck) for their successful behaviors more than did low procrastinators, and women mad internal, ability-based attributions for their failures.

Attributional Style as a Function of Intrinsic Motivation

In order to examine whether attributions of internally-motivated students differed from those of students who were not intrinsically motivated, a median split of the of WPI Intrinsic Motivation scores was obtained. An approximately equal number of men and women participants were distributed in the high and low motivation group, and participant sex was included as a two-level factor in ANOVAs, along with intrinsic motivation (high vs. low), and college class. The means from these 2 x 2 x 4 (Intrinsic Motivation x Sex x Class) ANOVAs with MMCS measures are located in Table 5. Again, the unweighted means solution was used, and the acceptable $\underline{p}$-level for interactions was lowered to .025.

As can be seen in Table 5, students with low intrinsic motivation had a higher external attribution style compared to students with high motivation, although this tendency was most pronounced for attributions to situational context, particularly those made in response to failure, all $\underline{F}$s(1, 78) $\geq$ 4.18, all $\underline{p}$s < .05. On the other hand, students with higher intrinsic motivation toward their work were more likely than their low-motivated counterparts to make internal attributions, typically to effort, and for both their successes and failures, all $\underline{F}$s(1, 78) $\geq$ 7.09, all $\underline{p}$s < .01. Again, women made more ability attributions than did men, especially for failure situations, $\underline{F}$s(1, 78) $\geq$ 12.04, $\underline{p}$ < .01. Finally, an interaction of sex and class for effort-based failure attributions revealed

that freshmen men (M = 8.50) more than women (M = 7.02) attributed their failures to effort (or lack thereof), $p < .05$, although this trend was reversed for sophomores (Ms = 7.58 and 8.67 for men and women, respectively), $p < .05$. Junior and senior men and women did not differ in their propensity to make effort-related attributions when they failed.

In sum, students with low intrinsic motivation made attributions to context, particularly when faced with failure. Students with higher levels of intrinsic motivation, however, made attributions to ability and effort for success, and effort for failure.

Discussion

The results of this study revealed that both situationally-dependent motivation toward a task and stable personality factors impact procrastination. Lack of extrinsic motivation, perfectionism, and an external attributional style all predicted the tendency to procrastinate. On the other hand, low procrastinators were motivated by both external and internal factors more than high procrastinators, while high procrastinators put off tasks due to aversion.

No differences in reasons for procrastination were seen based on tendency to procrastinate, although women procrastinated for different reasons than men. High procrastinators gave external attributions (to both context and luck) for their successful behaviors more than did low procrastinators, and women made internal, ability-based attributions for their failures. As predicted, students with low intrinsic motivation made attributions to context and luck, particularly when they succeeded. Students with higher levels of intrinsic motivation, however, made attributions to ability and effort for success, and effort for failure.

The link between fear of failure and perfectionism found in this study is consistent with previous research (Flett et al., 1992) that noted that the tendency to compulse over

doing something perfectly is related to the propensity to put off starting an endeavor. However, Flett et al. found that men more than women procrastinate because of perfectionism, although we found that perfectionism in women--but not in men--contributed to procrastination. This finding may be the result of women's higher fear of failure, coupled with their tendency to take personal responsibility for their failures.

Lack of extrinsic motivation contributed to procrastination for all students. While extrinsic motivators are always present in a student's environment, these might not be salient enough to serve as motivators, particularly when students may not be overly intrinsically motivated toward their school work to start with. For those that were neither intrinsically- nor extrinsically-motivated, procrastination was likely. People unmotivated by neither intrinsic nor extrinsic factors may be different from others on number of dimensions (see Amabile et al., 1994), and for these people, school tasks may be judged as particularly onerous, allowing for subsequent attributions for foot-dragging to the aversiveness of the task. Lack of salient extrinsic motivators may also have been why high procrastinators did not see fear of failure as a reason for their procrastinatory behavior. Perhaps grade rewards are not salient standards for performance, and therefore are not extrinsically motivating. On the other hand, procrastinators more than non procrastinators may have minimized the role of extrinsic motivators (such as competition or evaluation pressures) in their environment (cf. Amabile, 1983b), allowing them to blame only the aversiveness of school tasks for their procrastination, rather than themselves. Supporting this idea is the finding that locus of control was not related to the tendency to procrastinate, suggesting that procrastinators were not more cognizant than non procrastinators of external determinants of their behavior.

It is not surprising that our results revealed that students who procrastinate have low intrinsic motivation toward their school work and find little inherent satisfaction in school work, given that students who procrastinate often do so because they dislike

endeavors that require heavy cognitive demand and are subject to evaluation (Ferrari, 1991c, 1992) and typically show lower academic performance (Wesley, 1994). However, this research cannot articulate whether low intrinsic motivation is a cause of procrastination or a result of it, although the results did indicate that procrastinators found school tasks to be more aversive than did non procrastinators (cf. Solomon & Rothblum, 1984).

Although procrastinators had a general external attributional style, they made external attributions more than did non procrastinators only for successes, but not when faced with failure. Perhaps attributions to external factors for failures were not present because procrastinators, like those who self handicap, do not even bother to try tasks that are difficult (Lay et al., 1992). Given that it is likely that procrastinators will fail, we may question what reasons these procrastinators are giving when the inevitable failure results and how they are coping with the results of their behavior. On the other hand, some (e.g., Ross & Fletcher, 1985, p. 103) have argued that we do not always protect our self image via the attribution process.

As hypothesized, motivation did predict procrastination, but only lack of extrinsic motivation. One possible reason that intrinsic motivation did not predict procrastination may have been because one question measuring intrinsic motivation was accidentally left off all of the WPIs. Another reason stems from the fact that students in our sample were simply not motivated by anything, although it would seem likely that those students approaching graduation would have been motivated by some external factors, unless they perceived no relationship between academic motivation and future success. One final possibility is that like attributional style, perfectionism, and fear of negative evaluation, task motivation (either intrinsic or extrinsic) may be relatively stable, cutting across situations and domains (Amabile et al., 1994). To understand the degree to which procrastination fluctuates as a function of motivation,

motivation style that is constant in some people, but situationally defined in others, must be examined.

Many attribution theorists (e.g., Bem, 1972; Ross & Fletcher, 1985, p. 103) question the role of motivation in attributions. However, our data suggest that attributions (particularly those to luck and context) vary as a function of motivation. As we are differentially attracted to environments that suit our motivational style (Amabile, et al., 1994), our subsequent patterns of attributions for what we are doing may follow from our own choices (Bem, 1972).

In sum, the results of this study revealed that both motivation and personality have a joint impact on students' propensity to procrastinate on academic tasks. In question, however, is whether motivation toward other types of tasks, especially those that are inherently more satisfying that academics, can modify some students' tendency to drag their feet.

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Footnotes

[1]One question (that contributes to both the intrinsic motivation and task satisfaction scores) was inadvertently left off the WPI for some participants (n = 76). The intrinsic and task satisfaction averages were calculated accordingly, without this question, for all participants.

[2]Parallel regression equations that did not include the MMCS scales were also calculated for all participants, and separately for men and women participants. All of these equations were significant, but lowered the total variance accounted for by 3-4%. Predictors remained relatively consistent, although for men lack of intrinsic motivation (β = -.30) predicted procrastination.

Parallel regression equations that included subscales of the WPI (compensation, outward orientation, and task satisfaction) were also computed for all participants, and separately for women and men. Although slightly more variance (1-5%) was accounted for in each of these regressions, the regression for men participants did not reach significance. Again, however, predictors remained constant, and no subscales predicted procrastination in any of the significant regressions.

Table 1

Results of Regression Analyses to Predict Procrastination

Predictors	β	F
All Participants		
MMCS-External	.25	6.80**
WPI-Extrinsic Motivation	-.37	13.43***
Perfectionism	.41	14.99***
Sex	-.22	5.21**
Men Participants		
WPI-Extrinsic Motivation	-.34	4.62*
Women Participants		
MMCS-External	.28	4.21*
WPI-Extrinsic Motivation	-.40	7.20**
Perfectionism	.50	9.94***

Note. * $p < .05$, ** $p < .025$, *** $p < .01$

Table 2

Intrinsic and Extrinsic Motivation (and WPI Subscales) According to Sex, Class, and Procrastination Tendency

	Procrastination					
	Low			High		
	Participant Sex					
	Men (n = 16)	Women (n = 32)	Total (n = 48)	Men (n = 32)	Women (n = 16)	Total (n = 48)
Intrinsic[c,ac]	3.18	2.87	2.98	2.79	2.90	2.82
Extrinsic[c]	2.87	2.86	2.86	2.67	2.69	2.67
Task Satisfaction[c]	3.24	2.95	3.04	2.87	2.96	2.90
Outward Orientation	2.48	2.46	2.47	2.53	2.37	2.48
Compensation[a]	3.13	3.31	3.25	2.86	3.21	2.97

Note. Higher numbers denote more of the motivation type listed. Superscripts indicate significant effects ($p < .05$) of participant sex ([a]), class ([b]), procrastination ([c]), and interactions of those factors.

Table 3

Reasons for Procrastination According to Sex, Class, and Procrastination Tendency

	Procrastination					
	Low			High		
	Participant Sex					
	Men (n = 16)	Women (n = 32)	Total (n = 48)	Men (n = 32)	Women (n = 16)	Total (n = 48)
Fear of Failure[a]	1.61	2.14	1.96	2.02	2.51	2.18
Task Aversion[c]	2.38	2.80	2.66	3.44	3.29	3.39
Dependency[a]	2.13	2.75	2.54	2.34	3.13	2.60
Lack of Assertion	1.63	2.09	1.94	2.25	2.06	2.19
Risk Taking	2.56	1.69	1.98	1.83	1.78	1.81
Difficulty Making Decisions[a]	2.50	3.31	3.04	3.13	3.88	3.38
Rebellion Against Control	1.72	1.55	1.60	1.78	1.88	1.81

Note. Higher numbers denote more of the motivation type listed. Superscripts indicate significant effects ($p < .05$) of participant sex ([a]), class ([b]), procrastination ([c]), and interactions of those factors.

Table 4

MMCS Attributional Style According to Sex, Class, and Procrastination Tendency

	Procrastination					
	Low			High		
	Participant Sex					
	Men (n = 16)	Women (n = 32)	Total (n = 48)	Men (n = 32)	Women (n = 16)	Total (n = 48)
Total[c]	54.19	56.72	55.88	58.13	60.63	58.96
External[c]	21.44	23.19	22.60	27.75	26.50	27.33
Context[c]	11.94	14.03	13.33	15.94	14.56	15.48
Success[c]	6.19	7.78	7.25	8.63	8.56	8.60
Failure[b]	5.75	6.25	6.08	7.31	6.00	6.88
Luck[c]	9.50	9.41	9.44	11.81	11.94	11.85
Success[c]	5.00	5.84	5.56	6.75	6.94	6.81
Failure	4.50	3.56	3.88	5.06	5.00	5.04
Internal	32.75	33.53	33.27	30.38	34.13	31.63
Ability[a]	12.94	15.28	14.50	12.47	14.94	13.29
Success	8.44	8.63	8.56	7.72	8.38	7.94
Failure[a]	4.50	6.66	5.94	4.75	6.56	5.3
Effort	19.81	18.25	18.77	17.91	19.19	18.33
Success	10.25	9.19	9.54	8.38	8.81	8.52
Failure	9.56	9.06	9.23	9.53	10.38	9.81

Note. Higher numbers denote more of the motivation type listed. Superscripts indicate significant effects ($p < .05$) of participant sex ([a]), class ([b]), procrastination ([c]), and interactions of those factors.

Table 5

MMCS Attributional Style According to Sex, Class, and Intrinsic Motivation

	Intrinsic Motivation					
	Low			High		
	Participant Sex					
	Men (n = 24)	Women (n = 23)	Total (n = 47)	Men (n = 24)	Women (n = 23)	Total (n = 47)
Total[c]	57.46	57.26	57.36	56.17	58.91	57.51
External[c]	27.42	26.35	26.89	23.88	22.35	23.13
Context[c]	15.75	15.35	15.55	13.46	13.00	13.23
Success[c]	8.42	8.30	8.36	7.21	7.61	7.40
Failure[b]	7.33	7.04	7.19	6.25	5.39	5.83
Luck[c]	11.67	11.35	11.51	10.42	9.35	9.89
Success[c]	6.21	6.87	6.53	6.13	5.65	5.89
Failure	5.46	4.48	4.98	4.29	3.70	4.09
Internal	30.04	30.91	30.47	32.29	36.57	34.38
Ability[a]	12.46	14.74	13.57	12.79	15.70	14.21
Success	7.46	7.83	7.64	8.46	9.17	8.81
Failure[a]	5.00	6.91	5.94	4.33	6.52	5.40
Effort	17.58	16.17	16.89	19.50	20.87	20.17
Success	8.46	7.57	8.02	9.54	10.52	10.02
Failure	9.13	8.61	8.87	9.96	10.35	10.15

Note. Higher numbers denote more of the motivation type listed. Superscripts indicate significant effects ($p < .05$) of participant sex ([a]), class ([b]), procrastination ([c]), and interactions of those factors.